

Remarks

1. Summary of Office Action

In the final office action mailed May 18, 2006, the Examiner rejected claims 1, 2, 4-7, 9-14 and 16-18 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,781,980 (Dajer). Further, the Examiner rejected claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Dajer in view of U.S. Patent Application Pub. No. 2002/0191676 (Kenneth). In addition, the Examiner rejected claims 8 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Dajer in view of U.S. Patent Application Pub. No. 2005/0215245 (Tran).

2. Status of the Specification and Claims

Applicant has amended the specification to correct informalities noted by the Examiner. Applicant has also amended the drawings as suggested by the Examiner.

Pending in this application are claims 1-18, of which claims 1, 5, 9, 11, 14 and 18 are independent and the remainder are dependent.

3. Claimed Invention

The present invention is directed to a wireless network that may include a digital base station and a radio link converter unit. The digital base station may receive bearer data for each of a plurality of channels, establish control information for each of the plurality of channels, and output a digital signal that defines the bearer data and the control information to the radio link converter unit. The radio link converter unit may then receive the digital signal and extract from the control information a power level for each of the plurality of channels and a modulation frequency. Based on the power level and the modulation frequency, the radio link converter unit may then responsively generate an analog signal having a plurality of analog channels that

Amendments to the Drawings

Applicant provides herewith amended versions of Figures 4-5 to correct for informalities as suggested by the Examiner in the final Office Action (page 2).

defines the bearer data in the digital signal. The radio link converter may then output the analog signal to an antenna for transmission to a wireless terminal.

The independent claims recite aspects of this arrangement in various ways. For instance, claims 1, 9, 11 and 18 recite (i) receiving a digital signal that defines bearer data for each of a plurality of channels, and control information for each of the plurality of channels, (ii) parsing from the control information, a power level and a modulation frequency, the power level being one of a plurality of possible power levels and the modulation frequency being one of a plurality of possible modulation frequencies, and (iii) transmitting an analog signal to at least one wireless terminal. And, claims 1, 9 and 18 also recite based on the power level and the modulation frequency, responsively generating an analog signal having a plurality of analog channels that defines the bearer data in the digital signal.

Further, claims 5 and 14 recite (i) receiving, from a first network entity, bearer data for a plurality of channels, (ii) establishing a modulation frequency for an analog signal that is to define the bearer data for the plurality of channels, and a power level for each channel of bearer data, (iii) outputting to a second network entity, a digital signal defining the bearer data, the modulation frequency, and the power level, wherein outputting the bearer data, the modulation frequency, and the power level comprises outputting to the second network entity a frame defining the bearer data, the modulation frequency, and the power level.

4. Response to § 102 Rejections

As noted above, the Examiner rejected claims 1, 2, 4-7, 9-14, and 16-18 as being by anticipated by Dajer. Applicant respectfully traverses the rejection of claims 1, 2, 4-7, 9-14, and 16-18, because Dajer does not disclose or suggest each and every element of any of these claims.

a. Claims 1-2, 4, 9-10 and 11-13

Of these claims, claims 1, 9 and 11 are independent. Dajer fails to anticipate the elements of claims 1, 9 and 11. In particular, Dajer fails to teach the combination of (i) receiving a digital signal that defines bearer data for each of a plurality of channels, and control information for each of the plurality of channels, (ii) parsing from the control information a power level and a modulation frequency, the power level being one of a plurality of possible power levels and the modulation frequency being one of a plurality of possible modulation frequencies, and (iii) based on the power level and the modulation frequency, responsively generating an analog signal having a plurality of analog channels that defines the bearer data in the digital signal.

At best, Dajer teaches that a radio frequency (RF) modulation section receives processed signals from a digital signal processing block (column 1, lines 47-49). Dajer further teaches modulating an RF carrier signal with the processed signals in a multiplier (column 1, lines 49-51). Also, Dajer teaches that a D/A converter 206 converts a digital bit stream of the processed signals to analog signals used to amplitude or frequency modulate the RF carrier signal (column 1, lines 51-54).

Dajer fails to teach parsing a power level and a modulation frequency from the control information that is defined by the received digital signal. Moreover, Dajer fails to teach generating an analog signal that defines the bearer data in the digital signal based on the power level and the modulation frequency.

According to M.P.E.P. § 2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Further, according to M.P.E.P. § 2112, in relying upon the theory of inherency, the

Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. In this regard, the Examiner alleged in the final Office Action that Dajer inherently discloses a power level (Office Action, page 4). In particular, the Examiner stated that before the bearer data transfer from a mobile switching center (MSC) to a base station, “the mobile switching center always establishes a power level for each channel before it sends it, so it’s inherent” (Office Action, page 4).

However, the Examiner has not established sufficient support for the Examiner’s inherency argument. In particular, the Examiner’s basis that the MSC always establishes a power level is incorrect since the MSC does not always establish a power level for each channel. Instead, it is known in the art that the base station, rather than the MSC, generally establishes a power level for each channel. Thus, the Examiner’s basis for inherency does not necessarily follow from teachings in the applied art. As a result, the Examiner has neither provided a sufficient basis in fact nor sufficient technical reasoning to support the Examiner’s inherency argument.

Because Dajer fails to teach the invention as recited in claims 1, 9 and 11, Dajer fails to anticipate claims 1, 9 and 11 under 35 U.S.C. § 102(b). Therefore, Applicant submits that claims 1, 9 and 11 are allowable.

Claims 2, 4, 10 and 12-13 depend from claims 1, 9 and 11. Thus, Applicant submits that claims 2, 4, 10 and 12-13 are allowable for at least the reason that they depend from allowable claims 1, 9 and 11.

b. Claims 5-8, 14 and 16-17

Of these claims, claims 5 and 14 are independent. Dajer fails to anticipate the elements of claims 5 and 14. In particular, Dajer fails to teach the combination of (i) receiving, from a first network entity, bearer data for a plurality of channels, (ii) establishing a modulation frequency for an analog signal that is to define the bearer data for the plurality of channels and a power level for each channel of bearer data, (iii) outputting to a second network entity, a digital signal defining the bearer data, the modulation frequency, the power level, and (iv) wherein outputting the bearer data, the modulation frequency, and the power level comprises outputting to the second network entity a frame defining the bearer data, the modulation frequency, and the power level.

In particular, Dajer fails to teach establishing a modulation frequency for an analog signal that is to define the bearer data for the plurality of channels and a power level for each channel of bearer data. Moreover, Dajer fails to teach outputting to a second network entity, a digital signal defining the bearer data, the modulation frequency, and the power level. In this regard, the Examiner alleged that Dajer inherently discloses a power level (Office Action, page 7). As noted earlier, the Examiner's basis for inherency does not necessarily follow from teachings in the applied art. As a result, the Examiner has neither provided a sufficient basis in fact nor sufficient technical reasoning to support the Examiner's inherency argument.

Further, Dajer fails to teach outputting a frame defining bearer data, modulation frequency, and power level to a second network entity. Instead, Dajer teaches that a channel transmits during a unique time frame in a time division multiple access system (column 1, lines 23-25). Dajer teaches the time frame in reference to a time slot, rather a frame carrying data and information.

Because Dajer fails to teach the invention as recited in claims 5 and 14, Dajer fails to anticipate claims 5 and 14 under 35 U.S.C. § 102(b). Therefore, Applicant submits that claims 5 and 14 are allowable.

Claims 6-7 and 16-17 depend from claims 5 and 14. Thus, Applicant submits that claims 6-7 and 16-17 are allowable for at least the reason that they depend from allowable claims 5 and 14.

c. Claim 18

Claim 18 recites a system comprising a digital base station communicatively coupled to a radio link converter unit. The radio link converter unit is arranged (i) to receive a digital signal that defines bearer data for each of a plurality of channels, and control information for each of the plurality of channels, (ii) to parse from the control information a power level and a modulation frequency, the power level being one of a plurality of possible power levels and the modulation frequency being one of a plurality of possible modulation frequencies, (iii) based on the power level and the modulation frequency, to responsively generate an analog signal having a plurality of analog channels that defines the bearer data in the digital signal, and (iv) to transmit the analog signal to at least one wireless terminal.

As described above, Dajer fails to teach the elements of (i) receiving a digital signal that defines bearer data for each of a plurality of channels, and control information for each of the plurality of channels, (ii) parsing from the control information a power level and a modulation frequency, the power level being one of a plurality of possible power levels and the modulation frequency being one of a plurality of possible modulation frequencies, and (iii) based on the power level and the modulation frequency, responsively generating an analog signal having a plurality of analog channels that defines the bearer data in the digital signal. In this regard, the

Examiner alleged that Dajer inherently discloses a power level (Office Action, page 14). As noted earlier, the Examiner's basis for inherency does not necessarily follow from teachings in the applied art. As a result, the Examiner has neither provided a sufficient basis in fact nor sufficient technical reasoning to support the Examiner's inherency argument.

Further, Dajer fails to teach a system comprising a digital base station that is communicatively coupled to a radio link converter unit. Instead, Dajer teaches that a base station is in communication with remote users through an air interface (column 1, lines 29-31). Dajer also fails to teach that the radio link converter unit transmits an analog signal to a wireless terminal via an air interface. Instead, Dajer teaches that the base station transmits an analog signal via the air interface to remote users (column 1, lines 57-61).

Because Dajer fails to teach the invention as recited in claim 18, Dajer fails to anticipate claim 18 under 35 U.S.C. § 102(b). Therefore, Applicant submits that claim 18 is allowable.

5. Response to § 103 Rejections

a. Claim 3

The Examiner next rejected claim 3 as being unpatentable over Dajer in view of Kenneth.

Claim 3 depends from claim 1 and incorporates all of the limitations of claim 1. Consequently, Applicant submits that claim 3 is allowable for at least the same reasons that claim 1 is allowable.

b. Claims 8 and 15

The Examiner next rejected claims 8 and 15 as being unpatentable over Dajer in view of Tran.

Claim 8 depends from claim 5, and incorporates all of the limitations of claim 5. Claim 15 depends from claim 14, and incorporates all of the limitations of claim 14. Consequently,

Applicant submits that claims 8 and 15 are allowable for at least the same reasons that claims 5 and 14 are allowable.

6. Conclusion

For the foregoing reasons, Applicant submits that all of the pending claims 1-18 are in condition for allowance. Therefore, Applicant respectfully requests favorable reconsideration and allowance of the pending claims.

Should the Examiner wish to discuss any aspect of this case with the undersigned, the Examiner is invited to call the undersigned at (312) 913-0001.

Respectfully submitted,

**McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP**

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By:



Parul Kapur
Reg. No. 58,209